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10/829,101

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/829,101
Filing Date: April 21, 2004
Appellant(s): LUTKUS ET AL.

Mark A. Frentrup
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 3, 2008 appealing from the Office action mailed Sept 13, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Declaration under 37 CFR § 1.132 of William J. Lutkus dated August 4, 2006, entered December 21, 2006.

Declaration under 37 CFR § 1.132 of William J. Lutkus dated August 27, 2007, entered August 28, 2007.

United States Patent number 6224311, Lutkus et. al, dated May, 2001.

Whitford Worldwide's "11 Reasons why Chromium-free Xylan® 5230 is specified by DaimlerChrysler, Ford, and General Motors", downloaded from http://www.miraeww.com/Data/notice/MIRAE_04011302.pdf, 3 pages, April 2003.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-21,23-27 are rejected under 35 U.S.C. 103(a) as obvious over Lutkus et al. USP 6224311 in view of Whitford Worldwide's "11 Reasons why Chromium-free Xylan® 5230 is specified by DaimlerChrysler, Ford, and General Motors", hereafter called Whitford paper.

Re claims 11--18, 21, 23-25, 27: Lutkus USP 6224311 teaches a fastener assembly 10 comprising:

a threaded fastener 20 formed of a 1st metal

A metallic fastener insert 22

A receiving element (hole 14 in substrate 12)

Wherein at least one of the insert or receiving element is formed of a 2nd metal (col 1 line 32-35; while the fastener is formed of a different metal in col 4 lines 54-55.) Col 3 lines 14-23 teach a fluoropolymer coating to reduce galvanic corrosion.

However, Lutkus is not specific that the fluoropolymer coating is chromate free. Whitford paper teaches the desirability of a chromate free coating to meet the US's "end of Life" Vehicle directive 2000/53/EC, further teaching that DaimlerChrysler, Ford, and General Motors all require such a chromate free coating for their fasteners. Further, XYLAN ® 5230 is specifically taught as advantageous specifically because it is a chromate free fastener coating, as required by the European Union, DaimlerChrysler, Ford, and General Motors. Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Lutkus and Whitford paper before him at the time the invention was made, to modify Lutkus as taught by Whitford paper to include the chromate free fluoropolymer coating, in order to obtain environmentally acceptable, low friction, corrosion resistant coatings, as specifically taught in the Whitford paper, page 2. One would have been motivated to make such a combination because immediate Market acceptance would have been obtained, as taught/suggested by Whitford paper. Further, compliance with environmental and purchasing standards would be met.

Further Re claims 12-18, 21, 24-25, 27: Lutkus teaches these properties in col 2 lines 1-33, col 3 lines 6-14, 15-44, and col 4 lines 1-3, 19-20, 54-55, and 65-68.

Re claims 19-20, 26: Lutkus teaches the use of tangless inserts in col 3 lines 1-

3

second ends, **36** and **38**, respectively. At least one of the ends may be provided with a driving tang or notch for tangless embodiments for assistance in the installation or removal process.

4:

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(10) Response to Argument

Appellant agrees that examiner has established a prima facie case of obviousness of the novel claims on the basis of the Lutkus reference and the Whitford paper.

Appellant is correct that a prior art teaching must anticipate or make obvious every limitation in a claim. Appellant argues that the evidence of unexpected results rebuts the prima facie case of obviousness, and that examiner has not considered evidence indicating unexpected results of the chromate-free coating in prevailing torque tests.

Examiner has not rejected the claims saying that a feature is obvious using a single reference without the chromate-free feature and then arguing that one of ordinary skill in the art would just know to do this as it would be obvious or expected – if that were the case, then appellant would be correct that the Declarations would likely rebut this argument. To the contrary, examiner has provided the Whitford paper as a specific teaching that a chromate-free coating, on fasteners, provides numerous, explicitly-stated benefits. The Whitford paper explicitly states that the chromate-free coating:

Art Unit: 3677

- (1) complies with the European Union "End-of-Life" Directive to discontinue chromate coatings on fasteners,
- (2) provides superb resistance to corrosion, the elements, chemicals, and all auto fluids, and
- (3) provides "outstanding and uniform torque/tension control".

From pages 2 and 3 of the Whitford Paper:

General Description

Xylan 5230 Black is a "chrome-free" fastener coating material developed for the worldwide automotive market. It is a resin-bonded, thermally-cured fluoropolymer coating. Xylan 5230 is formulated for application to fasteners by dip/spin or hand-spray method. Its primary function is to facilitate uniform driving torque while providing corrosion resistance.

Detroit's Big Three All Specify Whitford's Xylan® 5230, New Chromium-Free Fastener-Class Coating

Getting DaimlerChrysler, Ford and General Motors to agree on anything is not exactly an easy task. Yet all of the "Big Three" in Detroit have specified a unique new fastener-class coating from Whitford as an approved engineering material for their automotive fasteners.*

The new coating, Xylan 5230, was developed by Whitford Worldwide, makers of the largest, most complete line of fluoropolymer coatings in the world.

What makes Xylan 5230 unique?

The new fastener coating has a variety of characteristics that distinguish it from others, none of which offers all that Xylan 5230 does. These include:

1. It is dry, non-oily and non-greasy.
2. It has a uniform, handsome black appearance.
3. It has outstanding torque/tension control characteristics.
4. It has superb resistance to corrosion and the elements.
5. It has unsurpassed resistance to chemicals, including all automotive fuels, lubricants and fluids.
6. It resists chipping, flaking.
7. It's user-friendly: easy to apply.
8. It works perfectly on many substrates, including aluminum, brass, high-alloy steel, carbon steel, stainless steel, titanium, zinc plating, zinc phosphate, etc.
9. Perhaps most important, it is absolutely free of all restricted heavy metals, including chromium.

What's so important about chromium?

A prime motivator behind the development of Xylan 5230 was the European Union (EU) "End Of Life" Vehicle Directive (2000/53/EC).

In 2000, the European Union approved a plan to reduce the amount of material and elemental heavy metals that were winding up in landfills (with the possibility of leaching out). It included automobiles, in which many parts were made with chromium, including shock-absorber struts and conventional fastener coatings used for corrosion resistance.

While these restrictions do not yet apply to the United States, American auto makers are producing cars for the European market, and must comply with the EU directive by eliminating heavy metals completely by 2007.

Appellant has provided evidence, in the form of two separate Declarations by the inventor, describing the "surprising results and superiority of the claimed inserts in a prevailing torque test", noting that "the improvements, while subtle, were nevertheless significant". Examiner never ignored these Declarations. However, the first Declaration

Art Unit: 3677

provided evidence that out of 70 tested fasteners, 1 showed improvement in resisting movement, and 2 showed slight improvement in prevailing torque tests:

From Declaration of August 4, 2006, page 6 of 7:

Table I

SIZE	CHROMATE-FREE COATING		CHROMATE CONTAINING COATING	
	Movement	Torque	Movement	Torque
2-56	NONE	PASS	NONE	PASS
4-40	NONE	PASS	NONE	2 of 10 1 st cycle high torque
6-32	NONE	PASS	NONE	PASS
8-32	NONE	PASS	NONE	PASS
10-32	NONE	PASS	1 of 10 ¼ turn movement	PASS
¼-28	NONE	PASS	NONE	PASS
5/16-24	NONE	PASS	NONE	PASS

From Declaration of August 4, 2006, page 6 of 7:

Stainless steel inserts coated with the chromate free coating installed into aluminum torque test blocks with standard installation tools without any problems: torque tests in accordance with Heli-coil® Standard PP-3 were satisfactory for all samples (10 pieces for each size listed in the table). The minimum and maximum values were all within specification with no movement of the insert.

Comparison of torque values for the chromate-free vs. the chromate-containing coatings shows that a few samples of the latter exhibited slightly higher torque on the first cycle. Also, a small number of the tests showed movement of the insert. I conclude that the chromate free coating offers better and more reliable results when tested in the prevailing torque tests of Heli-Coil® Standard PP-3.

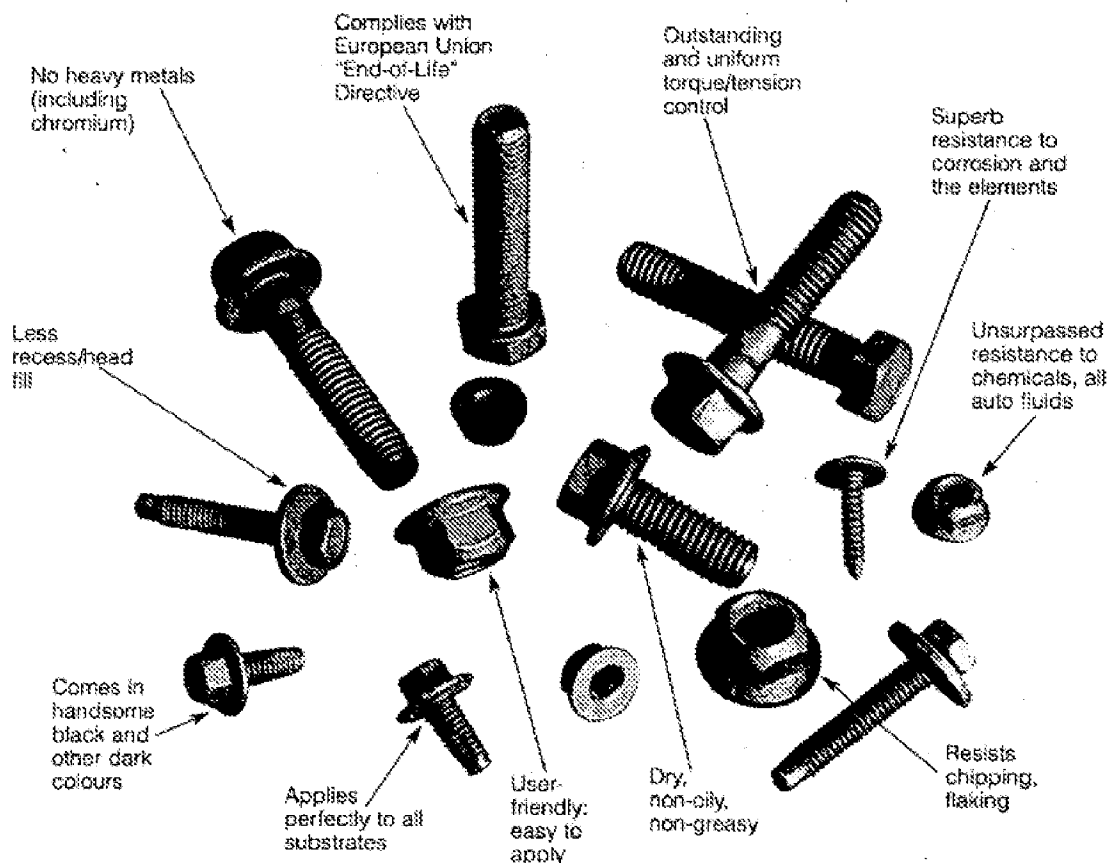
It is examiner's opinion that the Whitford paper clearly disclosed that a chromate-free coating on metallic fasteners provides clear, expected benefits, including "outstanding and uniform torque/tension control" (Whitford paper, page 1). Appellant's arguments, and declarations in support of his arguments, were not persuasive.

Further, appellant is claiming an apparatus - a fastener structure. In response to appellant's argument that the prior art does not teach the performance of the fastener in a specific test, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Further, appellant is arguing an inescapable property of the chromate free coating, since no further specifics are provided. Appellant is arguing that the chromate free coating is advantageous for reasons other than environmental compliance, and has provided a declaration with test results showing the improved performance. First, the fact that appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Again, the motivation to combine Lutkus and the chromate free coating of the Whitford paper is to comply with production and environmental requirements - if major manufacturers and the entire European marketplace require chromate free coatings, suppliers are certainly motivated to provide such coatings to keep these customers, or at least still be a possible supplier. The Whitford paper provides numerous advantages

Art Unit: 3677

(motivations) to use chromate-free coatings on fasteners--note the "outstanding and uniform torque/tension control", "superb" corrosion resistance, "unsurpassed" chemical resistance, along with ease of use and handling, and environmental advantages:



Once one is motivated to use chromate free coatings for environmental and marketing reasons, and does so, one would *THEN inevitably realize any improved performance in the prevailing torque test, since identical structures perform identically.* The fact that there may or may not be unexpected torque-test results is irrelevant—the motivation to combine is not to improve torque test results, but to comply with EU environmental regulations, and improve resistance to corrosion, and thus maintain the potential market. Further, environmental problems forbidden in the EU would likely at least

cause consideration that the chromate coatings could be a problem in the US, and mitigating environmental problems is important for both public relations and minimizing potential litigation and remediation costs in the U.S. This motivation alone would lead one to modify Lutkus to include chromate-free coatings to arrive at the claimed invention, and the performance in a prevailing torque test would be inevitably realized, but as noted previously, the Whitford paper also explicitly teaches that an advantage of the chromate-free coating is “outstanding and uniform torque/tension control”.

The Declaration of Mr. Lutkus under 37 CFR 1.132 filed 8/28/2007 is insufficient to overcome the rejection of claims 11-21,23-27, based upon Lutkus et al. USP 6224311 in view of the Whitford paper. Examiner is not considering that the motivation of one of ordinary skill in the art to combine Lutkus and the Whitford paper is based on performance in a torque test. Examiner agrees that if the only motivation to combine Lutkus and the Whitford paper were the performance of the coated inserts in a prevailing torque test, then the additional tests do indicate that there may be unexpected results in said tests, since the Whitford paper is silent on how the uniform improved driving torque is measured. However, this is not germane in this situation. Examiner maintains that the motivation to combine Lutkus and the Whitford paper does not require knowledge of the fastener's performance in torque tests. The Whitford paper is clear that the 3 major American car manufacturers – DaimlerChrysler, Ford, and General Motors, have all specified environmentally-friendly, chromium-free fastener coating XYLAN 5230 to comply with EU “End of Life” Vehicle Directive (2000/53/EC) environmental regulations (page 3 of 3), since all 3 produce vehicles for EU markets.

Further, the Whitford paper notes that this chromium-free coating also provides additional benefits, (chemical resistance, corrosion resistance, uniform improved driving torque, page 2 of 3) and thus the motivation is not dependant on torque test performance. Once one is motivated to use chromate free coatings, other inevitable benefits may be uncovered, but these benefits do not change the fact that the motivation to combine was environmental compliance to maintain markets. However, note that page 1 of 3 of the Whitford paper explicitly states [XYLAN 5230] **“Primary function is to facilitate uniform driving torque while providing corrosion resistance”**, so it is certainly not unexpected that torque test performance is enhanced. However, examiner stresses that the *“Prime Motivator”* for Xylan 5230 was to comply with EU environmental directives, and maintain markets (page 3 of 3), and it is this motivation that examiner considers to be the motivation to combine Lutkus and the Whitford paper.

Examiner made this rejection on the first office action, and has responded to arguments regarding the performance in a prevailing torque test in four subsequent actions and two advisory actions. The Declarations and arguments have been fully considered, but do not overcome the prima facie case of obviousness which appellant has admitted was made.

Appellant's arguments regarding the performance in a prevailing torque test were then supplemented with data provided in the second Declaration dated Aug 28, 2007, which provided data on tangless inserts in prevailing torque tests. Appellant's pending claims do not even require tangless inserts except for claims 14-20 and 26. Further, the

original application never mentioned the performance in a prevailing torque test in the claims at all, and the originally-filed case included method claims to a 'method for preventing galvanic corrosion in fastener assemblies...', consistent with the original specification:

From the Specification, page 1:

FIELD OF THE INVENTION

[0001] The present invention relates to coated fastener inserts and, more particularly, to chromate free fluoropolymer coating fastener inserts to prevent the galvanic corrosion and reduce incidental movement of the inserts within the in fastener assemblies.

..... and from paragraph [0002] also on page 1:

will in large part dictate the type of fastener to be employed. While the present invention is applicable to various fastener assemblies wherein galvanic corrosion is a potential problem, the invention will hereinafter be described with reference to fastener assemblies with metallic helically coiled wire fastener inserts. By way of

From the Specification page 8:

[0029] Interestingly, the chromate free fluoropolymer coated-fastener inserts of the present invention appear to have a smoother finish than those coated with the chromate inclusive compositions. Despite the smoother finish, the chromate free fluoropolymer coated fastener inserts perform better than fastener inserts coated with chromate inclusive fluoropolymer compositions during prevailing torque test conducted using tangles inserts. This is unexpected in that a smoother finish would normally dictate a propensity for movement of a fastener insert within a tapped hole wherein all operating parameters are the same, which was not the case.

Appellant is claiming a structure, a coated fastener assembly or coated fastener insert, and the structure is, in examiner's opinion, made obvious by the applied prior art. Its performance in a prevailing torque test is not a patentable limitation in an apparatus claim where all the structure of the apparatus is obvious but that rationale is also taught in the Whitford paper.

Examiner concludes by stating that all the evidence and limitations were fully considered, but that Lutkus in view of the Whitford paper makes obvious the apparatus. The Whitford paper provides explicit motivation to provide the chromate-free coating on fasteners, including appellant's original "primary object" of the invention to extend the useful life of fastener assemblies by preventing galvanic corrosion.

[0011] As a result of coating the fastener insert with a chromate free fluoropolymer composition, it is a primary object of the present invention to extend the useful life of fastener assemblies by preventing galvanic corrosion.

[0012] Another object of the present invention is to provide fastener inserts with more consistent prevailing torque values.

[0013] Yet another object of the present invention is to provide fastener inserts that remain substantially fixed within a tapped hole upon insertion.

As noted above, the Whitford paper explicitly discloses a fastener coating with:

General Description

Xylan 5230 Black is a "chrome-free" fastener coating material developed for the worldwide automotive market. It is a resin-bonded, thermally-cured fluoropolymer coating. Xylan 5230 is formulated for application to fasteners by dip/spin or hand-spray method. Its primary function is to facilitate uniform driving torque while providing corrosion resistance.

Chemical Resistance

Xylan 5230 is resistant to most automotive fuels, lubricants and fluids. It has excellent resistance to acids and alkalines.

It has outstanding torque/tension control characteristics.

A prime motivator behind the development of Xylan 5230 was the European Union (EU) "End Of Life" Vehicle Directive (2000/53/EC).

In 2000, the European Union approved a plan to reduce the amount of material and elemental heavy metals that were winding up in landfills (with the possibility of leaching out). It included automobiles, in which many parts were made with chromium, including shock-absorber struts and conventional fastener coatings used for corrosion resistance.

While these restrictions do not yet apply to the United States, American auto makers are producing cars for the European market, and must comply with the EU directive by eliminating heavy metals completely by 2007.

and thus examiner maintains that one of ordinary skill in the art would be motivated to use the chromate-free coating for these reasons (including the general "facilitate uniform driving torque"), and thus any advantages in a prevailing torque test would be inevitably naturally flow from the prior art combination.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Katherine Mitchell/

SPE, AU 3634

7/23/2008

Conferees:

Meredith Petravick /mcp/

Katherine Mitchell /kwm/

Victor Batson /vdb/